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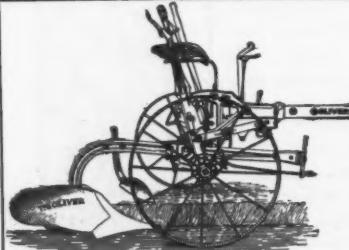
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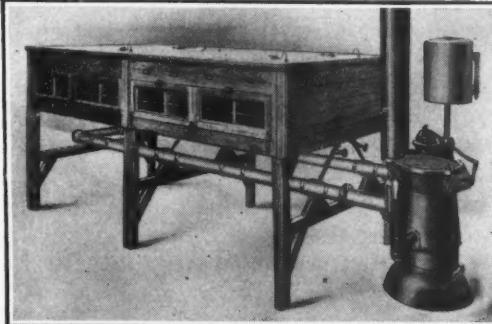
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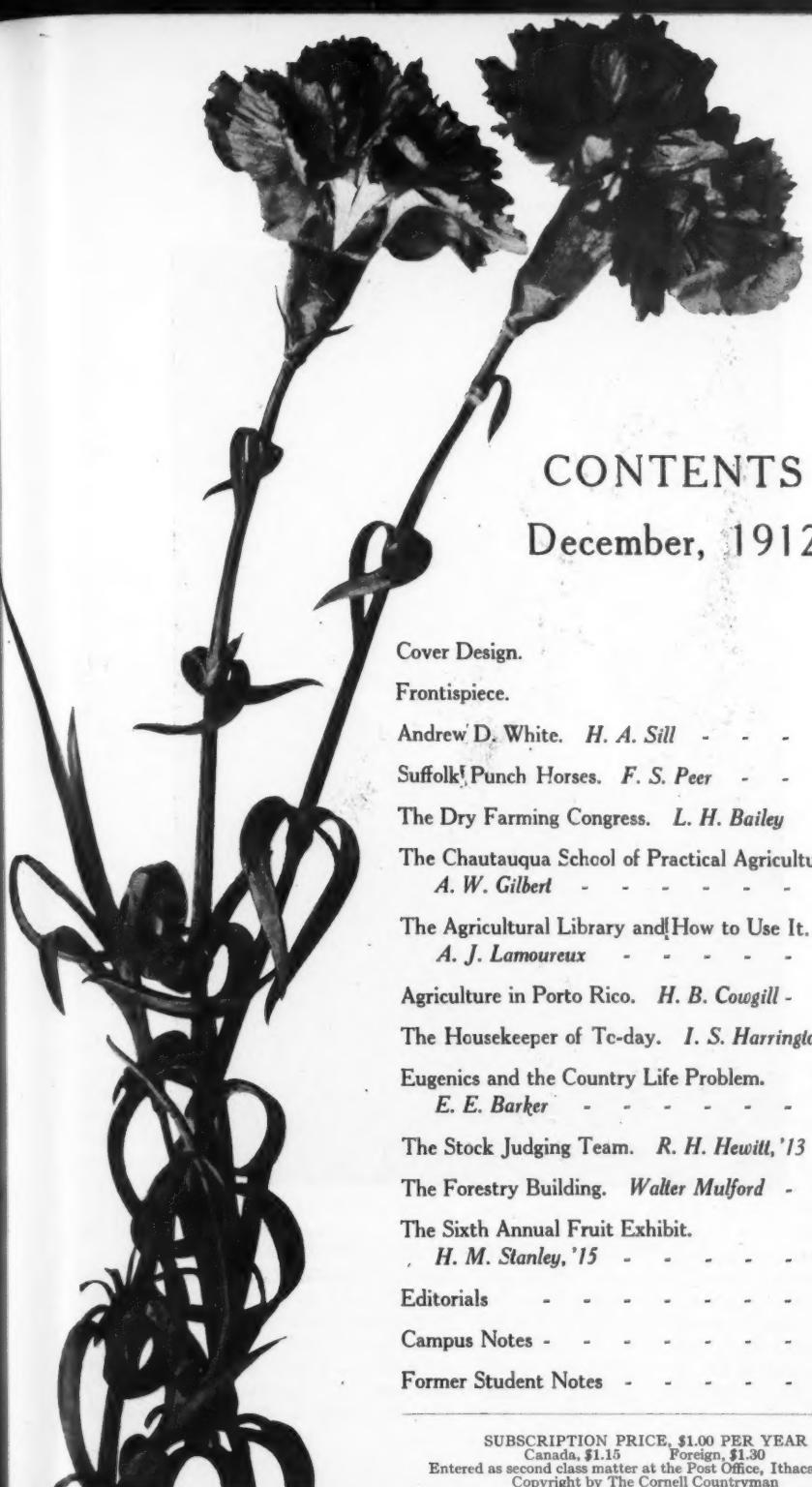
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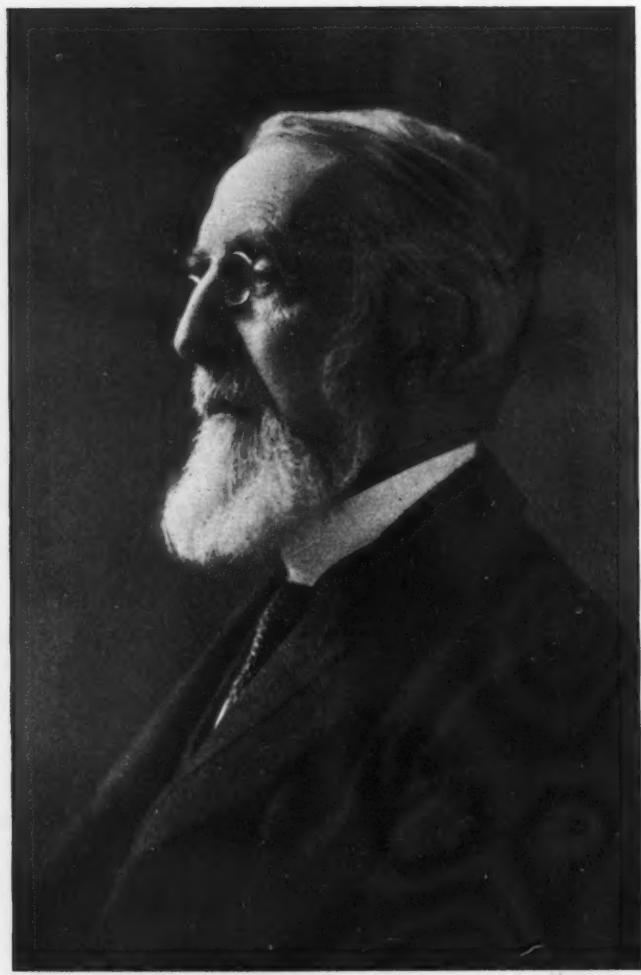


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Courtesy of the Cornell Era

ANDREW D. WHITE
Who celebrated his eightieth birthday on Nov. 7, 1912.

The Cornell Countryman

Vol. 10

December, 1912

No. 3

ANDREW D. WHITE

H. A. Sill

Professor of Ancient History, Cornell University

"Your young men shall dream dreams and your old men shall see visions."

Cornell University was once nothing but the dream of a young man. He was a boy of seventeen, a disappointed freshman, whose divine discontent with the restricted opportunities of a little college was quickened by what he read in its library about the universities of the old world and by what his own thinking taught him about the true scope of a modern university in the new world.

Other young men have dreamed dreams, which have faded at their first contact with real life and to which they have bidden farewell as the follies of inexperienced youth. Andrew White did not lose faith. Wherever he went, the splendid vision of a great university in the central part of New York State attended him on his way. After fifteen years, his opportunity came, and, as a Senator at Albany, he was not disobedient to the dreams of his boyhood, meanwhile confirmed and defined by his observation of real universities at Oxford, Paris, and Berlin, and informed by his experience as a professor of history at the University of Michigan.

It is easier to dream dreams than to realize them. The opportunity afforded by the munificence of the Federal government and the noble purpose of Ezra Cornell to serve the State at whatever cost to himself, was a supreme test of Mr. White's courage, wisdom, and persistence. He stood firm for the

principle that the Federal grant should not be divided but kept together. He opposed Mr. Cornell's effort to secure half of it for a State Agricultural College. He persuaded Mr. Cornell that the State needed a great university which could meet the demand for both technical and liberal education. Looking back, we can clearly perceive that the existence of such a university depended upon the happy chance which brought Mr. White and Mr. Cornell together at the right time and place and upon the qualities of mind and character which enabled them to find each other and to work together.

The story of their relations, of the meeting of their minds, of their close alliance in the service of a great ideal, forms one of the most fascinating of all biographical documents and is a Cornell tradition of imperishable value.

Each of these men saw visions. Each of them was a man of rare simplicity, unusual common sense and extraordinary capacity for self-sacrifice. One was, as far as anybody can be, a self-made man. The other had made noble use of inherited means to become, by travel, a citizen of the world, and by study, a scholar. One was a man of few books, the other spent a hundred thousand dollars in collecting a private library, which he ultimately gave to the University. In a sense, one stood for the practical needs of the present; the other for the high traditions of the past. Yet no such distinction is valid. Mr.

Cornell loved to listen to lectures on history and literature. Mr. White's mind was always quick to the instant needs of things. Both were truly American and could not have been born anywhere else in the world. They were congenial spirits and found it easy to contribute, each from his own experience, to their joint plan of a university, in which any person might find instruction in any study.

Ten years before Cornell University opened its doors, Mr. White told George William Curtis that the university of which he was still dreaming "should take hold of the chief interest of this country, which is agriculture." He resisted the attempt to create a college for agriculture alone; he believed that a school of agriculture should be an integral part of a great university, both for its own sake and for the sake of all the other departments, technical or academic, of which such a university should consist. Time has vindicated his judgment. For the instruction and inspiration which the State College of Agriculture draws from the rest of the University for the instruction and inspiration which the rest of

the University draws from the College of Agriculture, that college and the University and the people of the State should be grateful, above all others, to the chairman of the Senate committee on education in the sessions of 1864 and 1865.

What Mr. White did at Albany, what he has done here for agriculture and engineering, for history and literature, for architecture and music, is characteristic of his whole life. He has always been bringing people, ideas, interests, nations, together, never keeping them apart. He believes in the power of right reason to overcome differences and to remove prejudices. He often quotes the saying of a wise man: "The man I don't like is the man I don't know." He has taught many generations of Cornell students and teachers to know one another; he has kept us in touch with the great world of affairs, of which he is a part; he has also kept us in touch with that greater world, which is to be found in history, and in literature, in art and in music, the inner life of humanity in all ages and under all climes.

SUFFOLK PUNCH HORSES

By F. S. Peer

Ithaca, N. Y.

THE famous Suffolk Punch Horses, which are decidedly Flemish in type and resemble the Belgian draft horse more than they do any English breed, are bred extensively throughout the counties of Suffolk and Norfolk. The foreign demand of recent years has, however, tended much to reduce their number. Each year they are becoming scarcer and harder to buy, a fact which speaks for the popularity they are attaining abroad. During the Victoria Era the breed was much improved and is to-day the most uniform of any breed of horses either in Great Britain or the Continent.

They are particularly well adapted to modern farm work and American

conditions. They lack the abundant adornment of hair on the legs, characteristic of the Shire and Clydesdale; their endurance carries them through our rush season in good condition; while they stand our extreme summer heat remarkably well.

A striking characteristic of the breed is its uniformity in color. They are always chestnut, ranging from dark mahogany to light golden chestnut. This is the result of untold generations of careful breeding and the fact that no outcross has ever been permitted. This also accounts for the wonderful prepotency of the breed as shown in the color and confirmation of the grades even to the quarter bloods which are

invariably chesnut and decidedly Suffolk in type. The weight of the mares ranges from 1600 lbs. to 1800 lbs., the stallions from 1800 lbs. to 2200 lbs. and stand from 15-3 to 16-2 hands.

The mares are great milkers, therefore good brood mares. The foals get such a good start that by the time that they are two years old, with ordinary care, they are practically matured. It is the custom in Suffolk to breed all of the mares at two years old and to put them to work the same summer. No breed of horses that I have ever seen are asked to work so much or so hard while carrying and while rearing a foal as are the Suffolk Punch Mares in their native land. The stallions, too, have to take their share on the plough, reaper and wagon.

They are most tractable, most genial tempered and most willing. Nothing appears to worry them; all kinds of work are alike and a load that they cannot handle need not be handed over to any other horse.

Formerly they were much used in mere trials of strength. In the old days they were made to pull with the hames on their naked shoulders and when they could do no more standing they went down on their knees and drew in that attitude. Whatever may be thought of these harsh trials they prove that from the very beginning the

Suffolk Punch has been bred for courage and grit.

Suffolk Punch breeders are not a little proud that they have repeatedly won over all other breeds of draft horses. At the Royal Agricultural Show of England from the years 1839 to 1815, when the various draft breeds competed against each other, the Suffolks finished ahead on twelve occasions out of the twenty-one, as given in reports of the Royal Show.

The following account of this grand breed is taken from a work on the horse by S. Sidney: "The Suffolk Punch combines activity with an iron constitution. Their high courage, combined with docility, and their great pulling power install them in high favor wherever owned. The Suffolk Punch is preëminently an agricultural horse, quick at the walk and easily handled. He will draw a ton or over his own weight with the greatest ease. His short, stout body varying in girth from eight to nine feet; short, clean legs, and feet as good as are found anywhere distinguish him as an ideal farm horse. In addition the mares make the best of mothers, equaled by no others, in raising big, strong, well grown colts while doing the ordinary field work on the farm."

"If purity of blood is indicated by uniformity of color the Suffolk Punch undoubtedly stands the only unmixed breed of horse in the British Islands."



THE DRY-FARMING CONGRESS

By L. H. Bailey

THE International Dry-farming Congress held its seventh convention at Lethbridge in the Province of Alberta, Canada, in the week of October 21-26. In connection with this congress there was also an International Congress of Farm Women.

Dry-farming is the method of securing crops in regions of rainfall insufficient for normal crop production. The importance of dry-farming may be appreciated when it is said that six-tenths of the land surface of the earth has a rainfall of twenty inches or less, which means that considerably more than half of the earth is arid or semi-arid. It is estimated that we shall probably be able to reclaim about one-tenth of this amount by means of irrigation, leaving approximately one-half of the land surface of the earth to be used agriculturally, if used at all, by more scientific and rational methods of water-saving, land management, and crop organization. The Congress met these facts agriculturally and educationally. It was an agricultural convention embracing a wide variety of technical problems, but all treated with special reference to the useful handling of land under small rainfall. It was also a country-life convention, as is the necessary result in all agricultural assemblies in the present day, for there is no merit in dry-farming unless there is economic opportunity and social attractiveness.

Thus far in the history of mankind, agriculture has been developed chiefly in the humid regions. There has been some agricultural development by means of irrigation, but it is very small as compared with the habitable surface of the globe. Dry-farming, therefore, becomes one of the most important means by which the human race may further conquer the earth. The real conquest of the planet must be very closely related to water. There are three forms of this conquest: by the addition of water, or irrigation; by

the removal of water by drainage, and there are millions of acres in the United States alone that must be reclaimed by this means; the rational utilization of the natural rainfall in deficient regions, and it is probable that by this means we shall be able to utilize a larger additional part of the earth for the production of food for the human race than by any other means.

The International Dry-farming Congress, therefore, is an organization of the greatest importance to the entire people. It discusses questions of national and general significance. Heretofore the Congress has met in the United States, but it is now assuming a more international character. Delegates were present from a number of countries outside the United States and Canada. The people of Lethbridge, which is a thriving and well built city of some 12,000 people on the great level plateau of the Northwest, erected a building for the accommodation of the Congress. There are also large permanent exposition buildings at Lethbridge, and these were put at the disposal of the Congress for the showing of agricultural products and machinery. Some thousands of people were attracted by the Congress and the exposition. The display of products raised by dry-farming methods was extensive and remarkable, and was a good expression of confidence in countries that until recently were thought to be practically valueless.

The Congress had general sessions, and divided into sectional meetings. The sections or conferences were on soils, tillage, methods, and machinery; crops and crop-breeding; agricultural industry; live-stock and dairying; agricultural education; farm management; scientific research; agricultural colleges and experiment stations; the rural home, comprising the International Congress of Farm Women. The Congress proved to be one of the greatest gatherings of farmers, and it

attracted numbers of experts and eminent persons. It set forth in a very comprehensive and graphic way the methods that must be employed for the utilization not only of immense areas of the United States and Canada but also of other parts of the globe. It happened that the Dry-farming Congress of British South Africa was in session at the same time in Pretoria, and a message of congratulation and brotherhood was sent from Alberta to the Transvaal.

It is not to be expected that all regions of deficient rainfall can be profitably farmed, and purchasers should discriminate carefully between particular dry-farming projects; but that dry-farming offers one of the means of earth-conquest there can be no doubt.

The enthusiasm and vigor displayed

by the attendance of the Congress was essentially an expression of a new and confident outlook on one great phase of rural affairs. Nor is this dry-farming outlook by any means to be confined to semi-arid regions. The same principles of soil-management apply to farming everywhere, only the practices and degree of application being shifted in regions of greater or less rainfall. A good knowledge of water-conservation would save the crop in many years of drought and "dry spells." We accept the winter and the summer and the heat and the cold as parts of the year and we adapt ourselves and our plans to them; but we still regard dry weather as accidental. Not until we calculate on the drought as on the cold, shall we master our farming.

THE CHAUTAUQUA SCHOOL OF PRACTICAL AGRICULTURE

By Arthur W. Gilbert

Professor of Plant-Breeding, Cornell University

THE Chautauqua Farm School is a unique institution, located on the shore of Chautauqua Lake in the western part of New York State. Its object is to teach practical farming by giving young men an opportunity to do farm work under definite direction. A farm of 110 acres is operated in conjunction with the school to furnish farm experience. The school is, in reality, a farm-practice laboratory where young men may apply the scientific principles learned in the classroom. The term of the school occupies the interval in the summer which is the regular vacation time for schools and colleges, a period of ten weeks.

The students sleep in tents on a campground commanding a beautiful view of Chautauqua Lake. Each tent is provided with floor and fly; lighted with electricity and comfortably furnished. Ideal conditions for camp life are provided. On the campground

and near the tents there was erected a building one-half of which was used as a kitchen, sanitary in every way and well equipped, and the other half as a bathroom and supplied with shower baths having hot and cold water.

Can you imagine the pleasures of tenting under these conditions; with ample protection from the weather at all times; dry and comfortable; lighted with electricity and completely furnished with cots, tables, chiffoniers, chairs and closets? Shower baths with hot and cold water; a clean, up-to-date kitchen; large dining tent with the side always open facing beautiful Chautauqua Lake and plenty of good things to eat added much to the health and comfort of all.

On one side of the camp, only a few hundred feet away, is the Chautauqua Farm, and on the other side the baseball field and tennis courts of Chautauqua Institution, and beyond, Chautau-

qua Lake, offering unusual facilities for swimming and boating. The Agricultural School is a part of the famous Chautauqua Institution, which has one of the largest and finest summer schools in the country. At the Chautauqua Assembly can be heard the best speakers and many of the most prominent men in America today.

Such surroundings as these for a summer school cannot be surpassed anywhere in the world. But the students are not here primarily to play baseball, go swimming, nor camp in the

various tents indicating that it is time for squad one (or "squat one," as the Chinese student in the School called it) to arise and milk the cows. At the same time squad two begins work in the gardens, preparing vegetables for market.

At seven all gather around the breakfast table as "hungry as bears." After breakfast the tents are swept and put in order before work is begun in the fields at eight o'clock. Many kinds of farming are practiced; six or eight acres of vegetables, two acres of flow-



GENERAL VIEW OF CHAUTAUQUA FARM, SHOWING PART OF THE INSTITUTE GROUNDS ON THE SHORE OF CHAUTAUQUA LAKE.

ordinary sense of the word, nor even to attend the assembly lectures, but to learn how to farm by farming. The Chautauqua Farm is well equipped with up-to-date machinery and has a good herd of high grade farm animals. These are cared for by the boys who also do practically all of the farm work. Many of the cows are pure-bred Holsteins. The others are good animals but without pedigree. The live stock consists also of a drove of seventy-five hogs, three horses and some poultry.

The students' days are divided into several distinct periods. At five-thirty in the morning one could hear noises of various kinds emanating from the

ers, and large fields of hay, potatoes and corn. This gives opportunity for many kinds of work; hoeing; cultivating with push hoes and horse hoes; haying; spraying potatoes; harvesting and marketing vegetables; plowing and fitting the land for a second crop after one crop has been removed; care of a young orchard and the rejuvenation of an old one; making fences; laying tile drains; marketing land separating milk; and many other kinds of field practise to be found on such a farm.

At ten in the morning the boys gather in the large dining tent, which has now been turned into a class room, to receive instruction which could not

readily be given while they are in the field. Such subjects as figuring fertilizer, feeding and spraying formulas; germinating seed; discussing soil fertility; drainage; growing and breeding crops; marketing and so forth, receive attention. These daily meetings last until noon when dinner is served. From one until four in the afternoon, the students again return to the farm for various kinds of work. They now divide up into smaller groups for the afternoon. Two or three men may spend the afternoon in test-

at the big amphitheater of the Chautauqua Assembly.

The attendance the first season was not large, but this was expected. Among the students were two Yale graduates, six Cornell students, and one each from Pennsylvania State College and the University of Illinois. This school was designed primarily to furnish practical farm training to young men who desire to pursue agriculture as a life work but were not brought up on a farm.

Our agricultural colleges are now



GENERAL VIEW OF CHAUTAUQUA CAMP, SHOWING SLEEPING QUARTERS IN THE FOREGROUND AND KITCHEN AND DINING TENT IN THE BACKGROUND.

ing milk with the Babcock test or building a chicken coop to hold the young chicks which have been recently hatched from the incubators, and another small group may spend the afternoon in making cement drain tile or, perhaps, making a wire fence. Another group, a little more fortunate than the others, may be picking peas or digging thistles from the corn field. Or perhaps, the whole class may assemble and receive instruction in judging cattle, using for the purpose some of the fine animals on the farm.

The evenings are very often spent in attendance at the very high class entertainments, lectures and concerts given

facing a very serious problem because so many students come to them for training who have not lived on farms.

Nearly half of our freshmen lack sufficient farm experience. It is necessary and very desirable for them to get farm experience before obtaining an agricultural degree. Some get work on farms in various places during the summer, but this is very unsatisfactory, both to the farmer who is getting inexperienced help, and to the student who is working under some one who is not by nature nor training a teacher, hence the student must learn from what he can pick up.

THE AGRICULTURAL LIBRARY AND HOW TO USE IT

By A. J. Lamoureux

Librarian of the College of Agriculture

BY WAY of introduction it should be said that the Agricultural Library is essentially a branch of the Cornell University Library, using the same card indexes and governed by the same rules and regulations. It has about 3,500 bound volumes on its shelves, approximately one-half of which belongs to that great library.

As one of the departments of the University, the Agricultural College receives \$400 per year from the Sage Fund for the purchase of books, all of which remain the property and under the custody of the University Library.

In addition to this the College, as a state institution, receives a large sum of money annually for the support of its various departments out of which \$1000 is set apart for the maintenance of its library. This independent support gives it some measure of apparent separation from the University Library—a relationship, however, that is practically inoperative. The University Library has some 7,000 to 8,000 volumes of agricultural works on its shelves, a large part of which belong to the College of Agriculture and all of which are wholly for its use and enjoyment. The University Library is the medium through which nearly all the College book and periodical purchases are made; its great card catalogue includes the titles of all these agricultural books whether on the shelves of the Agricultural Library, in the offices or laboratories of the agricultural departments, or stored in its own stacks. Under these circumstances it is not incorrect to describe the Agricultural Library as a branch of the University Library and to say that it is governed by the rules and regulations of that institution.

This does not mean, however, that the Agricultural Library can do with its collections just what the University

Library is competent to do. In the first place the Agricultural Library is a working, or reference library, carrying on its shelves only the books needed by the instructing staff and students. Its restricted quarters, now much too small for its daily needs, compel this. The books belonging to the University Library are likewise considered to be on deposit, the same as those loaned out for office or laboratory use, or placed on seminary shelves, and the librarian is not permitted to loan them out except for overnight or over-Sunday use. These restrictions prevent the drawing of books for home use for longer periods, although exceptions are made sometimes in favor of the instructing staff and graduate students. The restriction, if rigidly enforced, would be as embarrassing to the librarian as it is now to the undergraduate who wants a book on a long term loan. Naturally in so small a library it would be impracticable to discriminate between the books belonging to the University Library, which the librarian is not permitted to loan for long terms, and those belonging to the College. Such a discrimination would be impossible with so small a staff and with its limited resources. In addition to this, it is essential that the University Library records should show at any moment where every one of the volumes in its card catalogue is to be found. Manifestly this would not be the case were the Agricultural Library to act independently.

At present the library is necessarily restricted to the works most frequently used by students and instructors. Its shelves are crowded and its present quarters will not permit of further expansion.

Its principal and most frequently used collections are those of the U. S. Department of Agriculture and of the

fifty-nine experiment stations scattered throughout the United States and its dependencies. These publications embody the results of all the investigations and experiments carried on by expert investigators and form the basis of what is known as modern scientific agriculture. The agricultural textbooks of today draw largely upon these publications and in all agricultural colleges they provide the greater part of the supplementary reading assigned to students. It is evident that these two collections of publications form an invaluable and indispensable part of an agricultural library. It was estimated at a librarians' conference in 1910 that fully 12,000 of these publications had been issued. In the fiscal year, 1910-11 the Department of Agriculture issued 1,953 separate publications and the experiment stations about 500. From this it may be assumed that the total number of publications up to the end of June, 1912, was not less than 17,000, each publication being a complete discussion of some feature or subject relating to agriculture and its contributory sciences. For library convenience these publications are bound in volumes of medium size and grouped, not by subjects, but according to the bureaus and stations publishing them. The bulletins and circulars are arranged in numerical order which permits each publication to be described in the card catalogue by number and the bureau or station from which it originated. With Department of Agriculture publications this arrangement brings together those relating to the same general subject (Chemistry, Entomology, Plant Industry, Soils, etc.), but with those published by the experiment stations the association is purely mechanical, a Geneva station volume, for instance, containing all the bulletins issued during the year on a wide variety of subjects.

To catalogue these 17,000 publications, each one being considered a separate work or book, would involve much detail and labor and to avoid this the Department of Agriculture prepares and prints a subject card index

of the experiment station publications and the Library of Congress prints another for the government publications, the latter being an author index as well. Every library having these publications on its shelves is provided with these two indexes, and with them it is possible to locate the publications on any specified subject according to bureau or station and number. With these two particulars the librarian can easily locate the volume containing any desired report, bulletin or circular.

Another means of locating publications according to subject is that of using the Experiment Station Record and its admirable indexes. This publication, which now issues from 14 to 16 numbers a year in two volumes, gives an abstract or brief notice of all important agricultural books, pamphlets, and articles. It covers the whole field and includes all the prominent publications of foreign nations as well as our own. And its references are so full and exact that the student need use no other index except to find the call numbers when using the University Library. The student should use this periodical not only in looking up subjects but to keep in touch with the march of events in modern agriculture. Every teacher in agriculture must be familiar with it and the student and scientific farmer should be sufficiently cognizant of its contents to feel that they have not been left behind. By and by every live grange having a library and reading room of its own will be compelled to keep the Experiment Station Record on file and its pages will be as eagerly scanned by the wide awake farmer as the market reports of the daily newspapers.

There is an occasional inquiry for the lists of the publications of the Department of Agriculture and the State experiment stations, but this cannot be met by the card indexes in use. The Division of Publications and Office of Experiment Stations issue monthly lists of them as published but it involves some labor to trace up in one of these the issues of any one bureau or station. The division of

publications, however, publishes occasional lists of available free and priced publications and also a descriptive title list by bureaus. A bulletin (No. 180) of the Office of Experiment Stations gives all the publications of the State experiment stations down to June 30, 1906, with title, author, and number. A continuation of this list would be of the greatest convenience to librarian and reader and it is to be hoped that the director of that bureau will soon find an opportunity for compiling it.

The library has a card catalogue of the 1100-1200 volumes of miscellaneous works on its shelves including manuals, texts, reports, and other reference works, but it has no index of the contents of the volumes made up of contributed articles. Some of these series, like the annual reports of the horticultural societies and boards of agriculture, contain material of great value and a subject index of their contents could not fail to be useful. There is also some irregularity in the publication of reports of various societies and this too needs the work of a bibliographer to make them accessible. There has been an encouraging growth in the collection of horticultural reports during the past year and it is hoped that means will be found to make this complete. The librarian has not had time to do as much in securing the reports of other societies but a beginning has been made and without doubt all of these will soon be represented on its shelves. The library also possesses an incomplete card catalogue of the agricultural books and periodicals catalogued by the University Library and card indexes of the more important contributions to three leading foreign periodicals, besides separate indexes for the Year Books and Farmer's Bulletins published by the U. S. Department of Agriculture.

The periodical files of the library also merit consideration. They contain many of the leading agricultural periodicals of the United States and not a few from foreign countries. These are nearly all received in exchange for the publications of this station.

In conclusion, the librarian wishes to lay particular stress upon the following points and to invite sympathetic co-operation on the part of those using the library. The library is now much too small for the College and until new quarters are provided considerable discomfort and inconvenience must be expected and endured. The only remedy for this will be to check out books for use in other rooms open for study, and for the students to purchase their own copies of the frequently used manuals and do as much work as possible in their own rooms. It should be understood that the library does not undertake to provide text-books and that the one or two copies of a manual which it may possess cannot possibly meet the needs of a large class. Still further it may be expected that the winter course will crowd the reading room to the extreme and some co-operation in the ways suggested must be afforded or the library will be unable to meet efficiently the demands upon its resources. It should be understood that the resources of the library are extremely limited. If the books required in any course are not on the shelves, the students must look for them at the University Library or at the department laboratory.

Another important consideration is that relating to the careful usage of the invaluable collections in the library. The older issues of the Department of Agriculture and experiment stations have long been out of print and copies are now extremely scarce. It is almost impossible to duplicate them. It is essential, therefore, that the use of such volumes should be limited and that great care should be exercised in handling them. The librarian would recommend that references to the older publications be made only in case of necessity and that the indexes be used more generally by investigators. In all cases, readers should care for the collections even more zealously than they would were they personal property, for they are the printed record of a national movement and achievement of which every American should be proud.

AGRICULTURE IN PORTO RICO

By H. B. Cowgill, '10

Assistant Pathologist, Estacion Experimental, Rio Piedras, Porto Rico

THE principal crops of Porto Rico are sugar cane, tobacco, cocoanuts, coffee, citrus fruit, and pineapples. Dairying is carried on extensively enough to supply the demand for market milk, but practically all the butter and cheese that is used is imported. Tropical fruits grow in abundance and are eaten quite extensively by the inhabitants of the Island.

Sugar cane is the principal agricultural product of the Island. Practically all the coastal plain area, which includes most of the level cultivated land, is devoted to the raising of sugar cane. In some cases this land is owned by the men who cultivate and produce the cane and sell it to the "Centrals" where it is manufactured into raw sugar. In other cases, and this is more often the case with that land immediately surrounding the factory, the "Central" owns the land.

A "colono" is one who raises cane and sells it to the Central. A colono may own his own land but more often the land is furnished by the Central and then, at the grinding season, the Central buys the cane of the colono at

a price agreed upon. The land cultivated under the administration of the Central is under the supervision of one or more managers who have overseers or "mayordomos" to look after the work of the laborers. This work, consisting of planting, cultivating, and harvesting, is largely done by negro peons. Oxen are used for plowing and hauling. The cultivating is done with ox plows and with hoes. There is some land that is never cultivated with animal after the cane is planted. It is gone over with hoes by the laborers.

To an American coming to Porto Rico the use of oxen for agricultural work seems a very slow and antiquated practice. Four oxen will do no more than one good team of horses in the United States; some make the estimate much more in favor of the horses. But with the present system of agriculture in Porto Rico oxen seem to fill a useful place, especially for certain kinds of work. The oxen live on grass that comes up without seeding when the land is left to fallow after producing cane for a series of years. Horses or mules require some grain and this has



CUTTING SUGAR CANE.



OX CART TRAIN.

to be imported as no grain is raised in Porto Rico except a small amount of mountain rice. An animal can be worked while he is most valuable for that purpose and then can be sold to the butcher with a depreciation of only about 10%-12%. The laborers also get along much better with oxen than they do with horses or mules. Changes in agricultural methods in the raising of sugar cane that would make oxen labor unprofitable would effect the meat and milk supply of the Island, for it is on this land following cane that much of the beef and dairy cattle are grazed.

The cattle are for the most part of African origin. They are characteristically of a fawn color and have characters that easily distinguish them from the European breeds. They have some very desirable characters but are not as a rule heavy milk-producers. There is good opportunity to improve these cattle by selection and by crossing with imported cattle. There is a demand for milk at good prices in the cities.

The varieties of cane mainly cultivated are the Otaheite and the Crystallina. The former has been recognized, in the principal cane growing countries, as the best cane known, and the

Crystallina has been considered only second to the Otaheite. Both varieties have "run out" or are "running out," the one after the other, in all cane countries; so that new seedling varieties are coming to be cultivated quite extensively. This makes a very interesting question for the agriculturist and plant breeder. The planter wants a variety with a sugar content and yield equal to or superior to the Otaheite cane and one much more hardy under the present soil conditions of the Island.

The cause of this "running out" of the cane is attributed to different causes among which are a lack of plant food in the soil, accumulation of disease in the soil, old age of the variety, and poor cultivation. In Java, cane has been improved by hybridization with more hardy wild varieties, which were resistant to disease. Of late years, seedling varieties are being propagated in nearly all cane growing countries and it is hoped to replace the old varieties with others equal or better.

The citrus fruit and pineapples of Porto Rico are of very good quality. These fruits are raised, for the most part, by Americans. Steamers which carry freight leave the ports of the

Island twice each week for New York. The fruit-growers maintain a shipping association whose representatives look after the handling of the fruit in New York. Such tropical fruits as the mango, papaya, aguacate, and mamey can not be shipped successfully but are eaten quite extensively by the people of the Island. Pineapples are shipped fresh and also after being put up in cans.

Cocoanuts are grown best on sandy soil on or near the seashore. They commence bearing about eight years after planting and are said to yield until thirty or more years of age. They require very little attention after being planted except to protect them from animals. The nuts are worth one or two cents each on the tree. A palm produces about twelve panicles of nuts each year and each panicle matures five to ten nuts. About forty palms can be raised to the acre. Considering the fact that the land on which the cocoanuts are grown is the cheaper land and that little or no cultivation is required, cocoanuts are considered a very profitable crop.

Vegetables are raised in small patches by the country people. These country people are called

"jibaros" meaning farmers. They live in the more mountainous parts of the Island and bring their products to the city and towns on horseback or on foot, usually traveling at night in order to have them in the market in the early morning. Such vegetables as sweet potatoes, yams, tayotes, melons, taro, tomatoes, peppers, and bananas are planted in holes and receive very little cultivation. The vegetables usually grown in the North are not cultivated here much, but some have had success with them. Varieties and methods may be found which will make them profitable to raise, but at present, the general belief is that they do not succeed well in Porto Rico.

American vegetables are shipped in to some extent to supply Americans who want them, not having acquired a taste for the vegetables grown on the Island.

Porto Rico is a very pleasant place in which to live, with its mild climate and refreshing breezes. It is cooler in summer and warmer in winter than any part of New York State. It has quite abundant rainfall but with very little cloudy weather. Its scenery and tropical flora are beautiful and interesting.



PORO RICAN NATIVE HUTS.

THE HOUSEKEEPER OF TO-DAY

By Ida S. Harrington

Lecturer in Home Economics, Cornell University

KING Progress rules the age in which we live. Under the sway of his sceptre such changes are wrought as would have seemed miraculous to our forefathers. The tallow dip has given way to electricity; the ox-cart is hardly more than a memory; skilled workers guide machines in doing swiftly and easily what human hands once did with infinite patience and pains. System and sanitation, two chosen servants of King Progress, are revolutionizing methods and conditions in industry. All the sciences are as a matter of course enlisted on the side of Progress, all but one: the science of housekeeping alone, like the Sleeping Beauty in the fairy tale, has until recently dreamed in her castle, walled in by a hedge of conservatism; and although King Progress has now placed his magic kiss upon her lips, she is not fully awake. She is still rubbing her eyes, and wondering what all the other sciences are making such a to-do about; and what fault they had to find with the good old times that they must needs have made the world over while she slept. It is not a happy awakening; she almost wishes King Progress had passed her by! The responsibility of arousing the science of housekeeping to her opportunities, and placing her where she belongs, on a par with other sciences, rests with the housekeeper of today.

Discontent with present-day housekeeping conditions is so general, that instead of the favorite occupation it ought to be, housekeeping is thought of as drudgery of the worst kind. With the passing of cheap labor, more and more work has fallen on the shoulders of the housewife. She is struggling vainly to do two or three women's work without increased facilities. Houses are arranged much as they were when help was plentiful and the number of necessary steps were not all taken by one woman. Methods of work have

changed little in the household from what they were thirty or forty years ago, while in the machine shop methods of work are abreast of the times. Household tools are often wrongly constructed; and among the "labor-saving" devices that flood the market, many are so complicated as to defeat the purpose of saving work for which they were supposedly designed. How, in the face of these difficulties, are we to meet our responsibility of making household methods as scientific and progressive as the methods in other lines of work?

The average housekeeper is too work-driven to get outside her problem and study it calmly. Like an uncertain swimmer who has fallen overboard she does not dare to stop her strokes long enough to take bearings and see whether or not she is beyond her depth. With the thought: "Everything will stop if I stop," she continues to work desperately until the waters close over her head. The help she needs does not consist in someone's standing on the shore and calling out to her not to work so hard. It requires more active coöperation to help her regain her footing.

A business man who suspects that he is not getting full returns for time and money, calls in a "business physician," an expert whose specialty it is to study business plants, with a view to discovering where strength and money may be saved and where tools and methods may be improved. It does not follow that the expert is any better able to run the business, with its multitude of details, than is the man who has asked his advice; but because the expert does not have the carrying of details to worry him, he can give his whole mind to studying the problem; because he comes to it with a fresh point of view, he readily sees the weak points in habits of work which may have grown up so gradually as to be

unnoticed by one who is constantly in the midst of them. Therefore, his suggestions are worth the very substantial fee which the "business physician" charges. The time will come when the perplexed housewife will call in a "housekeeping specialist" in the same way to readjust her household, not because such a specialist is necessarily a better all-around housekeeper than she, but because, being a specialist, the expert has had time to study and experiment, and is able to offer the results "ready-made" to overburdened housewives. Failing personal help of this kind, there is much to be gained from correspondence with teachers of household efficiency, or from books on the subject. There is much to be gained from the mere willingness to be helped. The advice and coöperation of the husband ought to be as valuable in matters usually classed as "a woman's business" as the wife should be in matters considered the specialty of the other member of the firm.

"But," some woman may say, "I don't want to be classed with the women who are always complaining about household matters to their husbands. Men hate it." Everyone is inclined to lose patience with a woman who is always asking for pity because of her difficulties, without doing anything to overcome them; but the scientific housekeeper does not do that. She discusses things in order to improve them, knowing that the success of her business is as important to her husband as it is to her. If men fully understood how poorly equipped the average kitchen is, they would not rest until it was changed. A man does not submit to uncomfortable conditions of work. If he is to drive a nail, he wants a hammer, and nothing can persuade him that a flat-iron or a boot-heel will do. Every man wants his wife's companionship in both work and play; every family of children needs the mother to crown its joys and soothe its sorrows; every community needs its women to lift it to a proper plane. A woman's ability to give herself freely where she

is so much needed depends on her either having almost superhuman strength, or on her having proper conveniences for work and the ability to make the most of them.

It is not labor-saving devices alone that will start a new era in housekeeping. Are we ready for the day of mechanical power in the home when it comes? We may dream of what we should do if someone presented us tomorrow with one of those electrical wonders in which an alarm clock starts the electric current which heats the oven, and checks it again when the proper degree of heat has been reached, but should we know how to use it or keep it in order if it became ours? Have we cultivated the mechanical turn of mind necessary for the use of machinery? Too often the lack of this faculty makes us condemn as useless an article which could save us much time and strength.

The first step towards the machine-equipped kitchen is to acquire the mechanical turn of mind. Once started in developing this faculty, we shall be astonished to see how it helps us to make more useful every tool and piece of equipment that we already own. The woman who discovered that a cherry-stoner could be made out of a wire hairpin, was getting her mind in training for the larger kitchen helps that she looks forward to possessing some day. A woman's class is conducted in Delaware, not to learn embroidery or china painting, but carpentering! Instead of centerpieces, the women take home chicken coops, shelves and tables, and apparently get much pleasure and profit from the class. If instruction could be given in the making of kitchen equipment, we should get labor-saving devices that really save labor. It is from women who have suffered from poor equipment all their lives, that the really valuable inventions for our households will come. There is no fear that a knowledge of the use of tools will throw upon women pieces of work that rightfully belong to men. It will simply hasten coöperation and

"reciprocity" between women and men.

No labor-saving device is effective without the labor-saving mind. It is time gained, not wasted, to plan out a piece of work beforehand instead of plunging blindly into it. It is time gained, not wasted, to pause for ten minutes' rest at intervals of a busy day; to take the few minutes necessary to run out and give the finishing touch to the children's snow-man; to drink in a little of the beauty of summer while hanging out the clothes; to risk a little extra mud on our shoes in order not to lose one sign of spring as we go to feed the chickens. Long periods of

rest and recreation are rare occurrences for the housewife, much as she needs them. Therefore, it is the more important that she treasure every bit of rest and joy and fun that may come as a part of her daily work. There are two kinds of work: the kind we do because we want to, and the kind we do because we have to. When the one becomes the other, the result is happiness. If it can be said of us that we learned to make housework a joyous task, we shall have helped in awakening domestic science to her opportunities, and shall have given the world what has been called "a real boost towards the better day."

EUGENICS AND THE COUNTRY LIFE PROBLEM

By E. Eugene Barker, '10

THE great territorial expansion and industrial development that our country has undergone since the Civil War, has brought about vast changes in the distribution of population in our social institutions, and in our standards of living. The business opportunities afforded in the city to the ambitious young man, attracted many of the most virile country youths away from the drudgery, the long hours and low wages of the farm. The city's glamour and social life, as contrasted with the quiet, uneventful life of the country, attracted both young men and women alike. The word "city" brought with it ideas of fortune, pleasure, social distinction, and culture. Its attraction was irresistible. The young people went to the city to make their fortune or to become wives of city men.

The effect of this emigration was very marked. The towns grew enormously, and new cities sprang up where was forest and prairie a few years before. The virile human stock with several generations of country breeding behind it, reacted splendidly to the new life, and truly marvelous has been

the development it has brought about in every line of human activity. At the present time, a large proportion of our captains of industry, commercial princes and eminent professional men, as well as the large bulk of the great army of workers, are country bred.

At the same time, the effect became apparent in the rural districts. Such a drain of the best minds and bodies away from the open country and village, could have but one effect, poorer farming, less thrift, and stagnation of social activities. Go where you would, it became a common thing to see rundown farms, and dilapidated homesteads that had been formerly fine old family-seats, now occupied by some second-class tenant, while in the villages, it seemed like war times, with only old men and boys about the streets. The vitality of the country church was notoriously weak. These conditions only increased the city's attractiveness by heightening the contrast.

At last the nation awoke to the fact that in the cities had become centered the wealth and the culture of the whole

country. The open country had become impoverished, the villages sleepy and decadent. Dilapidated homesteads, struggling churches, even abandoned farms, were symptoms of an unhealthy social adjustment.

City life is not ideal, however. It is exceedingly wasteful of nervous energy, and lacks many of the healthful advantages of country life. It is not an ideal place to live in, nor in which to raise healthy, alert children. It is said that three generations of city life wears out a family, and the stock must be invigorated again by fresh blood from the country. The country has furnished the bulk of the city populations and the majority of leaders in all walks of life. But now, if the source that produced our best men and women has been drained, we can look there no longer for our leaders. And what is equally alarming, since the country feeds the town, the production of staples has not kept equal to the consumption, and prices have soared and continue to rise. The country must keep some of its best human stock on the land. It must continue in the future, as in the past, not only to furnish alert, vigorous men and women to the cities, but to produce the nation's whole food supply.

No longer can we speak of a rural civilization as distinct from that of the city. They should be one, continuous from the civic center and suburb to the remotest farmstead. This must be brought about if the country is to be made as attractive to homemakers as the city. Better means of communication are already doing this. Trains, trolleys and automobiles, mails, rural delivery, and telephones are bringing the culture of the city out into the country, and raising the standards of living for those who live on the land. Sanitary appliances about the farm homestead not only make for healthfulness, but lighten the drudgery of housework, and add comfort to living. The use of machinery, both out-of-doors and in the house, lessens labor and gives time for intellectual work and social activity.

All these higher standards of living for the country-dweller would do little good if they could not be attained. But thanks to the advance of agricultural science, and an ever-increasing market, farming now offers as good commercial opportunities as most city vocations, and an intelligent farmer is able to provide the comforts of living that our times demand.

But this is not sufficient. A taste for country life must be developed to counteract the city's glamour. Our rural education must be redirected for it now leads away from the country. The country-dweller must be part of his background to be contented. The more points of contact he has with his surroundings, the more at home is he. He should know its natural history, the physics of its mountains and valleys, the chemistry of its soils. He must be made to see beauty in things around him, so that his soul shall find satisfaction in the woods and fields and skies. Such tastes and interests in his surroundings must replace for him the theaters, museums and art of the city.

The problem is, first to make country life as attractive and full of opportunity as the city, so that the best young men and women will not all leave the farm and village. Then to make rural life more healthful. There should be better understanding of hygiene and sanitation, and at least as much intelligence used in preparing the family diet, as in the rations for cattle and hens. Above all, lightening the women's work, so that they shall have time to give to their families, to teach and train their children, and inculcate such ideals, tastes, and morals as have produced the finest type of American citizen in the past.

A community is the persons who comprise it, a nation is the people that constitute it. Institutions are only the organized expression of the people's life. Without the right sort of men and women, they can not hold their own, they perish. After all, the problem of our national life is one of eugenics, not merely physical, but moral and intellectual as well.

THE STOCK JUDGING TEAM

By R. H. Hewitt, '13

FOR several years Cornell has sent a judging team to Chicago to compete with other leading agricultural colleges thruout the country for honors in judging cattle. This being one of the largest dairy shows in America, it gives exceptionally good opportunity for such a contest.

Competition for the judging team began last spring when about 15 men met weekly to judge rings of cattle in the vicinity of Ithaca. This, however, was the preliminary work. The final work began this fall at the opening of college. Sixteen men met each night at 4.30 and judged rings of cattle from the University herd or a herd near by. Each Saturday, longer excursions were made, and several of the leading herds in New York State were examined. Among these were the Glenwood herd of Jerseys at Ensenore; the herd at the Geneva Experiment Station; O. W. Post's herd of Guernseys at Ensenore; the Benham herd at Canandaigua, and F. S. Peer's herd at Ithaca. E. A. Powell's herd of Holsteins at Syracuse, Stevens Bros.' herd at Liverpool, and Mr. Baker's herd of Ayrshires at East Aurora were visited.

The rings shown at these farms were usually composed of excellent animals and gave the men good opportunity to study each type. Much benefit was also received by talks given freely by the herdsmen and breeders. This coöperation with the breeders makes it possible for Cornell to send a team.

On October 21st, the team finally selected to go to Chicago was chosen by Professor Wing. The men picked were: H. L. Page, J. R. Teall, and R. H. Hewitt. On the 23d the team left, and arrived in Chicago the morning of the 24th. That afternoon, Professor Wing took the men out to see the stock yards. As it was the last of the week, the pens were nearly empty, but the acres of land covered by these pens gave an idea of the size of the beef industry in the West.

The contest occurred on Friday. The team arrived at the stock yard amphitheater at 8 a. m., where were assembled 42 men from 14 universities: Nebraska, Iowa, Kansas, Missouri, Michigan, Massachusetts, New Hampshire, Delaware, Maryland, Kentucky, Pennsylvania, Ohio, New York and South Dakota.

This was the largest contest of its kind ever held. The teams were briefly told the rules of the contest by Mr. Rawl, the director of the contest. They were then divided up into four squads of from 11 to 12 men, each in charge of a guide.

The first cattle to be judged were the Ayrshires. One squad was led into the arena where a ring consisting of four cows stood. For two minutes the cows were led around. The remainder of 15 minutes was given for the placing of the animals. The squad was then taken to a separate room and given 15 minutes to write the reasons for their placing. In a similar manner the Guernseys, Jerseys and Holsteins were placed.

On Saturday night the results were given out. Nebraska won 1st, Iowa 2d, while Cornell succeeded in winning 6th place. The comparative scores out of a possible 4200, were Nebraska, $3544\frac{1}{3}$; Iowa, $3476\frac{2}{3}$; Kansas, 3381 ; Massachusetts, 3330 ; Missouri, $3296\frac{2}{3}$; New York, 3214 ; Kentucky, $3169\frac{1}{3}$; South Dakota, 2965 ; Pennsylvania, $2963\frac{1}{3}$; Michigan, $2934\frac{2}{3}$; Delaware, $2890\frac{1}{3}$; Ohio, $2865\frac{2}{3}$; Maryland, 2834 ; New Hampshire, $2804\frac{1}{3}$. The New York team won second place in judging the Ayrshires.

The highest individual score in the Ayrshire breed was won by R. H. Hewitt, '13, with a score of 188 out of a possible 200.

This contest is growing rapidly in size, there being a gain this year of four schools over last year. The interest taken in it is also increasing. At Iowa over 100 men started in the competi-

tion. Some of the western colleges give their insignia to the men making the teams. For this reason I would urge that every man who can possibly do it should try for the team and not only get personal benefit but help make a winning team for Cornell.

The time I have spent in the competition, I look upon as the most profitable I have had in college. And I think the men who did not succeed in

making the team will heartily agree with me that it was time well spent.

Then there is the training, given by a man second to none in his profession, and to whom the team is largely indebted for their success. Upon these trips we were given a chance that cannot be had in class rooms for closer association with Professor Wing, a feature which is one of the most pleasant of the trip.

THE FORESTRY BUILDING

By *Walter Mulford*

{Professor of Forestry, Cornell University}

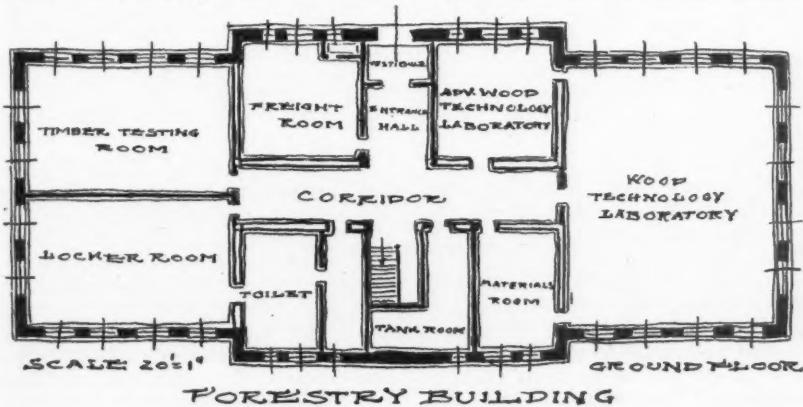
THE contract for the erection of the forestry building has been let. The building is to be located just east of the Filtration Plant on the high knoll overlooking the Forest Home Valley, and close to the woodland along the Fall Creek ravine. It is to be northwest of the Poultry Building.

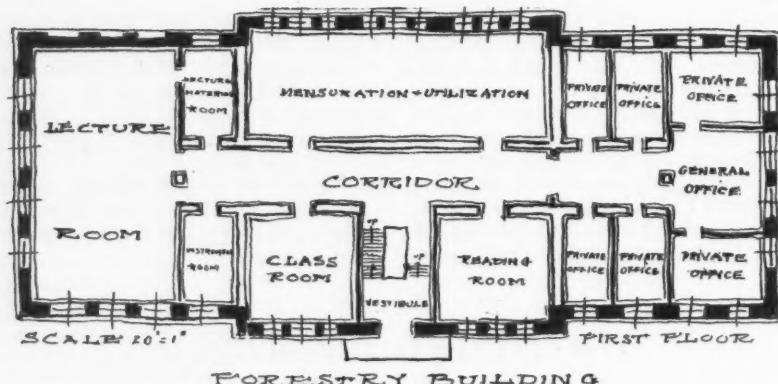
The building is to be of brick, in conformity with the other College buildings. The outside dimensions are 143 feet by 58 feet. There will be three floors, and a finished attic containing much available space lighted by dormer windows and skylights.

The ground floor contains a general wood technology laboratory, an advanced wood technology laboratory and a timber testing room. All three

of these laboratories will be given over to the work in structure and identification of woods, timber testing, paper pulp and other matters affecting the technical qualities of timber. Connected with the general wood technology laboratory will be a laboratory materials room. The ground floor also contains a freight room and a locker room. This floor is not a basement, but receives full light on three sides, and has half length windows on the fourth side.

On the second floor there is a large laboratory for mensuration and utilization, a reading room, a class room, a lecture room, an instrument room and a group of offices. The lecture room will be provided with an automatic window





darkening apparatus, so as to facilitate the use of lantern slides. Connecting with the lecture room is a lecture materials room in which charts, maps, photographs, specimens, lantern slides, and all other materials used in illustrating the lectures will be kept. The office group includes a general office and six private offices, all connected by a system of push buttons.

The third floor includes a laboratory for silviculture and dendrology, a museum, a class room, a drafting room,

an herbarium room and a seminary room.

In the attic there is an advanced general laboratory, a series of small private laboratories, camera and dark rooms, a room for the forestry club and an office. It is expected that the club room will serve as an informal reading room and gathering place for the professional forestry students. This room is attractively located and should prove of great value in developing the proper fraternal spirit among the men.

THE SIXTH ANNUAL FRUIT EXHIBIT

By H. M. Stanley, '15

ACH department of the College of Agriculture has its own mode of expression of the work it is accomplishing. For several years the Department of Pomology has expressed the efficiency of its work by a Fruit Exhibit. Every year this Fruit Exhibit has shown such progress in size, attractiveness, and educational features that now it is without doubt the most instructive of its kind in this part of the country.

The Sixth Annual Fruit Exhibit held November 7th, 8th and 9th, surpassed all the previous annual exhibits in quality and quantity of the fruit as well as in the educational features advanced. The entire work of the

exhibit was performed by the students in the Department of Pomology. They were responsible for the setting up, the labelling, and the arrangement of the fruit, while the judging was performed by advanced students, who have had training along this line.

The formal opening of the Exhibit was announced at the Regular Monthly Assembly held November 7th and during the evening the Exhibit rooms were well filled with interested spectators. There was a large attendance of residents, fruit growers and students at all times.

Cornell colors, used for extensive decoration of the stairways, corridors and Pomology rooms, gave a striking

appearance to the entire exhibit. The great regularity of placement and arrangement, so as to present the best effect was one of the features of the show which received a large amount of comment from all of the spectators.

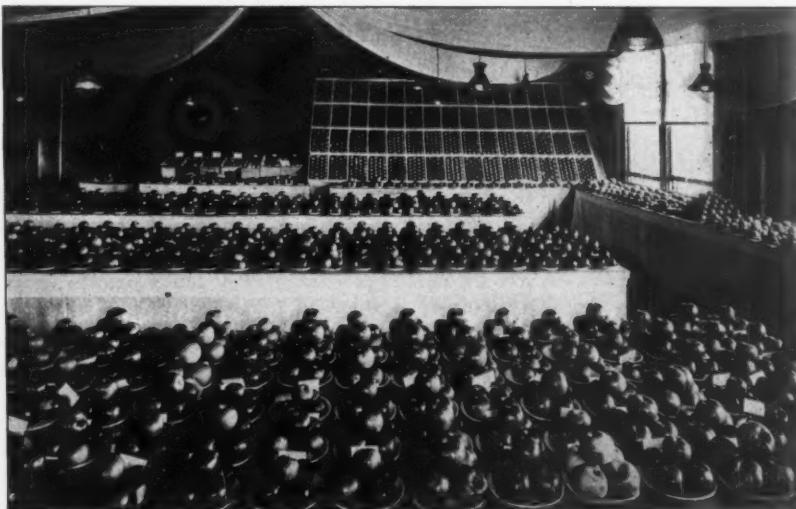
The Exhibition was made quite representative of the entire country by having collections from Massachusetts, Idaho, Utah, California, Nevada, Maryland, West Virginia, Michigan, Oregon, Ohio, Connecticut, Pennsylvania, Maine, and New York. From about 50 exhibitors, 133 varieties of apples were received together with several varieties of pears from Rochester and a few peaches and pears from Maryland. There were also several plates of Persimmons and Quinces. A rack of Tokay and Malaga grapes from California gave a marked contrast with a few of the typical varieties from New York State.

One of the most educational features of the Exhibit was a bank of box packed apples. This bank represented a large red frame surrounding a large red "C U" figured with Tompkins Kings in a background of Greenings. The fruit used in the bank was grown in an old orchard on the University Farm.

This had, from long neglect, been bearing a small amount of poor fruit. The Pomology Department assumed control two years ago and the great improvement accomplished by careful cultivation was shown by the excellent exhibit and by the fact that the orchard is now producing 300 barrels of apples an acre!

The Exhibit is held chiefly for its educational value. It affords the students a splendid opportunity for the study of fruits and fruit varieties, which seldom comes to them in after life. Then too, such a comprehensive exhibit is by far more instructive than the lecture or class room study and gives exceptional opportunity for the study of the characteristics, the variations and the adaptations of the many varieties.

Besides demonstrating one of the ways in which the college is attempting to educate its students along practical lines in preparation for later life, the Exhibit reminds us that "There were never better opportunities ahead for the capable Fruit Grower," especially in our own New York State, "and that skill in orcharding is demanding a premium and is assured of receiving it!"



GENERAL VIEW OF SIXTH ANNUAL FRUIT EXHIBIT.

The Cornell Countryman

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DECEMBER, 1912

Short Course Students The COUNTRYMAN takes great pleasure in welcoming you men

and women who are members of the entering class of Winter Course Students. The enthusiasm and thirst for knowledge that has brought you here fits in well with the spirit of this institution, the spirit of service. You are here to acquire information of a practical nature. With but few weeks ahead of you, you must work intensively if you are to receive fullest benefit of your course. You cannot expect to learn all the principles and practices of agriculture in these twelve weeks but you should learn to *think* along agricultural lines.

You are expected to enter into the social life of the college and to share the responsibilities of a student. Take a live active interest in your clubs, your teams and your debates. Remember that you are urged to attend the

meetings of the various departmental clubs and the monthly Assemblies of the College where student body and faculty mingle on common informal ground.

Ex-president White's Birthday It was indeed a memorable occasion when, on November 7, the students gathered before the steps of Goldwin Smith Hall to do honor to Dr. Andrew D. White on the occasion of his eightieth birthday. We who are now students in Cornell University owe a great deal to Dr. White whose tireless efforts at the time of the establishment of the institution and since that time have been in no small way responsible for the prestige which Cornell now enjoys. Several years before the founding of Cornell University, he had mapped out plans for an institution of higher learning which should be worthy of the State of New York. With admirable foresight, Dr. White was among the first to provide for the parity of practical and cultural studies. He said, at the time of the founding of this University, "It should begin at the beginning. It should take hold of the chief interest of this country, which is agriculture; then it should rise—step by step, grade by grade—until it has fulfilled the highest ideal of what a university should be."

Farm Practice A problem which is becoming more and more serious in the College of Agriculture is brought about by the large number of students coming from cities and towns without any practical experience in farm life. These men must before graduation pass the farm practice

examination. Many are at a loss to know how they shall acquire the personal first hand knowledge of the farm which this examination requires. A number can find vacation employment on farms, but opportunities in this direction are insufficient to meet the necessity or the demand. Prof. Gilbert's article in this issue describes one way by which the difficulty is being met. In regard to the training-school idea in agriculture, Dean Bailey in his address before the rural education section of the New York State Teachers' Association said in part: "The State of New York has now undertaken to maintain advanced education in agriculture by the establishment of a state college and several schools. It should now go back to the beginning and provide the preparatory agencies. The first essential is to make it possible and practicable for the public schools to introduce agricultural subjects on similar terms as other subjects; and this is now being actively and I think effectively undertaken. If the state is to provide the best complete enterprise, the next most important need is some kind of direct training-schools in agriculture. By eliminating the purposeless long vacation and maintaining a twelve months' enterprise, such training schools or classes might be combined with the existing public schools without loss of time to the pupil. These training-schools or training-classes should be many, to meet the needs of the different localities. They should be small units and strictly limited in the number of pupils so that each pupil may receive the maximum of actual hand-training. If these

training-schools or training-classes were to utilize actual farmers' farms for a part of their work the results, of course, would be much better. A vacation in the country is not farm work. Living in a country home is not farm work. One must actually do the work seriously and as good farmers do it. There should be some way of linking-up many of the best farms with the training-school idea, the educational features to be under the direction of the recognized educational authorities of the State.

"Society should take such action as will prepare the children to go to school."

Professor Webber Resigns Dr. Herbert J. Webber, head of the department of plant-breeding, has resigned from the staff of the College to accept a position as organizer and executive head of a Graduate School of Tropical Agriculture and a Citrus Experiment Station to be located at Riverside, California. While we very much regret the departure of a man who has so thoroughly gained the respect and the good will of the University community, we sincerely congratulate Dr. Webber on his advancement. California is indeed fortunate in selecting the head of her new institution.

Dr. Webber came to Cornell to occupy his present position in 1907. Previous to that time, he was in plant breeding work with the Department of Agriculture at Washington. During the year, 1909-1910, he served in the absence of Dean Bailey as acting Director of the College of Agriculture.



CAMPUS NOTES

The College of Agriculture must provide instruction for more than 2000 students this year. At the beginning of the fall term there were enrolled 360 Freshmen, 308 Sophomores, 230 Juniors, 163 Seniors, 117 Graduates, and 138 Special Students. In addition to the 1300 students thus accounted for, 225 students attended summer school and more than 550 are anticipated in the Winter Course, bringing the total for the entire year close to 2100.

In 1903, less than 10 years ago, when the State made its initial appropriation for this college the total attendance was but 296. Thus our increase in less than 10 years has been over 700 per cent.

In view of this astonishing growth, a survey was made by the Director to determine if the cause laid in the system of free tuition. The results of his inquiry were most interesting; it was found that large as was the total increase, the proportional increase of students attending from other states and paying tuition was even larger. It can only be deducted from these facts, that our growth is due not to free tuition, but to the enormously accelerated demand for agricultural education.

At the beginning of the school year, every Agricultural building was taxed to the limit of its seating capacity and with the arrival of the Winter Course students, recitations must be conducted in many buildings off the Agricultural College grounds. Until the new buildings are completed, the disposal of our 2000 students is the most serious problem confronting the administration.

The regular monthly assembly was held on November 7. Despite the rainy weather, the meeting was well attended. Dean Bailey spoke on "Organization and the Disadvantages of Too Much Organization." Human thought, he declared, runs very nearly in the same channel, and generally when a man goes astray he soon returns. There are a few, however, who live a life separate from the others; such men accomplish the most for the world. Edison is a very notable example of this. Speaking of organization in the country life movement, he stated that it is his belief if individuals worked harder, better results would be accomplished.

After the meeting all adjourned to the fruit show in the pomology rooms.

* * *

During the latter part of October poultry demonstration coaches were operated by the New York Central & Hudson River R. R. Co., in co-operation with the Ag. College, between Syracuse and Batavia. Messrs. Krum and Hurd accompanied the train. There were two coaches, one for lecturing and the other for demonstration on many of the important phases of poultry, including feeding for egg production, grading of eggs, construction of poultry houses and other items that bear upon the raising of poultry for profit. The demonstration car was fitted with poultry appliances, such as egg and poultry carries, picking boxes, feed hoppers, trap nests, and chickens for actual demonstration. Charts showing methods of rearing chicks,

caring for fowls, etc., were exhibited. Rations and methods of feeding in printed form were distributed. Results of many important experiments were discussed. At all their stopping places, the demonstrators were greeted by large crowds, thus showing the interest that the farmers are taking in the extension work of the college.

On November 12-14, another demonstration train was sent over the Harlem Division of the N. Y. Central from Albany southward, in the interest of dairying, soil improvement and orchard development. Professors Savage and Fippin accompanied it. One coach carried exhibits of feeds, dairy appliances, spraying materials, insect pests, fertilizers, lime, etc. Demonstrations of combinations of feeds in a balanced ration, choice of feeds, desirability and economical purchase, particularly of concentrated feeds were given. Also the common adulterations of feeds were discussed. The soils work dealt primarily with lime and commercial fertilizers. In regard to fertilizers, the fundamentals and composition were talked on, and suggestions were made as to the standard fertilizers for the average farm condition. Charts showing the effects of lime, the availability of commercial fertilizers, etc., were displayed. The importance of crop rotation in relation to soil management was mentioned and other important subjects such as the fundamental points in good soil management, lime in relation to the soil, etc., were discussed.

* * *

The New York State College of Agriculture has been asked to prepare an exhibit for the national corn exposition to be held in Columbia, S. C., Jan. 27-Feb. 10, which will demonstrate in miniature a good type of a country fair. It is hoped to put in graphic form as many practical suggestions for an ideal country fair as possible. The whole question of fairs, exhibits, and shows is at present much discussed and the preparation of an exhibit of this kind may help to crystal-

ize some of the ideas on this important subject.

A conference of several men prominent in fair work in this state has been called by the committee to discuss the questions given below. These questions have also been sent to prominent agriculturists throughout the country and valuable suggestions have been received.

How may the fair grounds and equipment be made a civic center and used the year round? Is it possible to place a rural school on or near the fair grounds so that both may be better used for educational purpose? Should experimental and demonstration plats be conducted on the fair grounds for the benefit of the whole community?

Could the fair grounds be made into some sort of a park and kept clean and attractive so as to be a fit place for rural gatherings at any time of the year? Could not the buildings be used for grange gatherings or other assembly purposes or for winter shows or exhibits? Could not the rural church be in some way associated with such an enterprise? How should such an enterprise be supported financially.

What should be the nature of the exhibits and other contests, and what should constitute the premiums? What attitude should a fair take towards vaudeville shows, balloon ascensions and such "attractions?" Should the hardware and general merchandise exhibits be encouraged? How much prominence should lectures have as educational features? What is the effect of traveling professional exhibitors? How may the fair be made more of an expression of the rural mind?

* * *

On the night of October 29, at the close of an enthusiastic meeting, the students of the Forestry Department organized the Cornell Forestry Club. At the close of the business meeting in which a constitution was adopted and officers elected, the club adjourned for a social hour. Professor Mulford gave a very interesting talk on forestry experiences. The following officers

were elected: President, K. E. Pfeiffer, '12; vice-president, B. H. Paul, '13; Sec. C. S. Hahn, '13; and Treas. H. B. Steer, '13.

* * *

On Wednesday night, October 23, the Ag. Sophomore class held the first social gathering of what promises to be a very active and enjoyable year. The entertainment committee worked out the suggestion that the class have a corn husking "bee", one of the good old-fashioned kind. For the occasion they had the use of the loft of the new horse barn. Decorated with corn shocks, it was an excellent place for the affair. After a short business meeting, Professor Rice gave a very fitting talk for the event. Then amid much merriment, began the husking. All those who were so unfortunate as to find a red ear, had the pleasure of entertaining the class with "stunts." After the corn was all husked and cleared away, dancing was started with a grand march. Later in the evening, cider, doughnuts and apples were served.

The "bee" certainly was a great success for fully 125 came out and enjoyed themselves.

* * *

Prof. Stocking and Messrs. Ayres and Fisk recently attended the International Dairy Show at Milwaukee and the National Dairy Show at Chicago. At Milwaukee, Prof. Stocking was one of the judges of milk and cream exhibited and also read a paper before the International Milk Inspector's Association.

* * *

Prof. Lauman was appointed to represent the Experiment Station and Prof. Stocking to represent the College at the annual meeting of the Agricultural Colleges and Stations to be held at Atlanta, Georgia, Nov. 12th-15th.

* * *

From Oct. 15th to 17th the State Cheese Instructors held a conference at the Dairy Department for the purpose of promoting uniformity of methods of instruction among the state colleges and to give opportunity

to become more familiar with the recent work of cheese making. On Nov. 12th to 14th the State Butter-makers held a similar conference for the same purpose.

* * *

On the evening of Oct. 28th, a memorial meeting of the Lazy Club was held in honor of the late John Craig, Professor of Horticulture, and "Uncle John" Spencer, founder of the extension courses. Mrs. Anna Botsford Comstock told of her remembrances of "Uncle John" and the Dean paid his tribute to Professor Craig.

Nov. 4th, was Chrysanthemum night for the Lazy Club. All members sauntered lazily over to the greenhouses, which were brilliantly lighted, where they inspected the wonderful display of chrysanthemums at their leisure. This meeting, possibly due to the environment, proved to be the largest in the history of the Club.

Prof. A. C. Beal spoke on "The Older Types of Chrysanthemums," and Mr. A. C. Hottes on "Chrysanthemum News of the Year."

* * *

Dr. H. H. Love of the Department of Plant Breeding has returned from a field trip to the farm of Seth Lowe at Bedford Hills, and to the Lincoln Agricultural School where he was engaged in conducting experiments with corn and potato plats.

Dr. C. H. Myers of the Department of Plant Breeding has completed his work of supervision of corn and potato breeding experiments at Alden, Newburgh, and Lincoln Agricultural School.

The Department of Plant Breeding has begun a co-operative timothy growing test with the farmers of Jefferson County. Improved timothy seed will be furnished by the College. The Department of Plant Breeding is now prepared to distribute to interested farmers, some new improved strains of timothy seed, and is planning to furnish some new varieties of wheat for next year's seeding.

The Home Economics Department rented the house on Reservoir Avenue, previously occupied by Mr. Tailby, and now to be known as the Home Economics Lodge. This house has been repainted and papered and slightly remodeled, and is to serve as a laboratory for the department to demonstrate the principles of simple house decoration and also to enable groups of students to solve problems in household management, in the preparation and purchase of food, and various other living problems.

* * *

The Department of Animal Husbandry has recently purchased eight-

Mechanics arranged for a demonstration of power plowing on the college farm. A field about 100 rods long and 30 acres in extent was selected. Part was in sod and part in corn stubble; part of the sod was wet, sticky black gumbo soil, part fine sandy loam and part slippery, wet clay. The corn stubble was a stony loam and as will be seen from the photograph quite hilly, altho the picture does not adequately indicate the slope as the steepest, shown at the left, was estimated at about 25%.

The demonstration served to convince even the most conservative that it is possible to do really good plow-



FARM TRACTORS DOING DEMONSTRATION PLOWING.

teen colts which will be used for instructing the students in stable management and fitting horses for sale. The colts will be put into condition and sold at the annual live stock sale of the department during Farmer's Week.

* * *

With the increasing use of gas tractors for plowing in the great wheat growing areas of the west and northwest the eastern farmer is beginning to ask if good plowing by power is possible on his farm, and if so will it pay him to purchase any one of the gas tractors now on the market? In order to provide an opportunity for farmers to form their own judgments on the first question the department of Farm

ing with engine plows. Also, that of the tractors demonstrated, each could pull its allotted plows in a satisfactory manner under favorable conditions. The wet clay swales and the steep stubble land, however, proved serious obstacles and the varying success of the different machines in coping with them was both interesting and instructive. Prof. H. W. Riley is not ready to express definite opinions as to the relative merits of the different machines shown, however, as so many factors are involved and so little has so far been proved by practice. He is, however, very ready to supply any one with a list of firms making gas tractors and with the names of those represented in the demonstration.

The problem of what a gas tractor must do in order to be a paying investment on the average New York farm was very carefully studied in a thesis prepared last June by H. H. Garner under Prof. Riley's direction. This thesis may be consulted at the library.

The college did not purchase any one of the tractors demonstrated but the department of Farm Practice has retained one for further trial and is now using it with very good success in doing the fall plowing on the college farm.

* * *

R. J. Gillmore, formerly assistant in Biology, has received an appointment as Professor in Zoology in the Western Reserve at Cleveland, Ohio.

* * *

Professor Montgomery has recently compiled some interesting statistics showing the previous location and experience of students taking the course in Farm Crops. Of the 150 students in the course, 50 per cent. are from the city, 10 per cent. are from the city but have had some farm exper-

ience, while but 40 per cent. come from farm homes.

In a large map of New York State are inserted pins which show the location of each student. A veritable forest of these pins appear around New York, Rochester, and other large cities, while thru the rural districts, the pins are thickest thru the Mohawk valley and around the Finger Lakes. In the great section of the state lying north of the New York Central Lines, the pins are few and far apart.

Ten years ago, 90% of the students in "Farm Crops" came from farms; today but 40% are from the country. These figures show that great as is the increase in registration of students from the rural districts, the increase in city students is growing even more rapidly.

Professor Montgomery feels that that while the boy from the up-to-date farm has a great advantage over the city boy, the latter on the other hand, is often a better student than the boy from the poorly run farm because he has less to unlearn. *

FORMER STUDENTS



[F. W. CARD, B.S.A., '92

'92, B.S.A., '93, M.S.—Fred W. Card was born at Sylvania, Bradford Co., Pa., in 1863. The early part of his life was spent on his father's farm. He attended the common schools until he was 14. At that age he entered the Mansfield State Normal School from which he graduated in 1880. He taught three years in the public schools and secured a permanent teacher's certificate. He then took a course at Allen's Business College in Elmira, after which he spent five years in gardening and small fruit growing.

In the fall of 1889 he entered Cornell University. He completed the regular course in Agriculture in three years, receiving the degree of B.S.A. in 1892. He was then granted a fellowship and remained for graduate work the following year, receiving his Master's degree in 1893. He was appointed assistant

in horticulture at the Cornell University Experiment Station before his fellowship expired, but resigned in a short time to take a position in the University of Nebraska in September, 1893. He held the title of Associate Professor of Horticulture at that institution but was in full charge of the Department. After five years in Nebraska he became Professor of Horticulture at the Rhode Island College of Agriculture and Mechanic Arts, and in 1901 Professor of Agriculture as well. He remained at Rhode Island nine years, resigning in 1907 to engage in actual farming on the farm where he was born. Upon being asked his reasons for leaving Rhode Island, he said: "I had always wanted to get where I could make myself a *home*. That, one cannot do who works on a salary and is liable to be changing from place to place at any time. I also grew tired of the personal jealousies and bickerings that are constantly creeping into that kind of work. I did not enjoy working under the direction of other men as a rule, although there were two or three exceptions. The time came when it was necessary to make a change from Rhode Island and it seemed to be the right time to make the jump to the farm, toward which I had been looking so long. It has been up-hill work here but I have no desire to go back. If the Rhode Island position were open to me today, I would not take it, though there might be positions which would be a temptation, of course. Some college and station work is good but a lot of it is not and I do not care to be constantly subjected to the public criticism which every station worker in agricultural lines must meet."

'98, B.S.A.—Prof. Gillmore, for some time President of the College of Agriculture of Hawaii, has accepted a position as head of the Agronomy Department at Berkely, Cal.

'99, A.M., '00 Ph.D.—Wilhelm Miller, formerly Associate Editor of the *Cyclopedia of American Horticulture* and for several years on the editorial staff of *Country Life in America* and

the *Garden Magazine* has recently gone to the Illinois Agricultural College as Professor of Landscape Gardening. His work is largely along the lines of bettering horticultural and landscape conditions thruout the state.

'99, B.S.A.—D. B. Clark of Leroy, N. Y., was a recent visitor at the college. Mr. Clark has recently returned from the Philippines where for six years he has been engaged in teaching work in the Island Schools.

'01, B.S.A., '04, A.M.—Arthur G. Ruggles, assistant professor of entomology in the University of Minnesota and a former student of Professor Comstock has been appointed entomologist of the Commission for the Investigation and Control of the Chestnut Tree Blight in Pennsylvania. Professor Ruggles has obtained a year's leave of absence from Minnesota and is going to Philadelphia at once to take up his duties.

Mr. Ruggles spent a few days in Ithaca while on his way.

'05, B.S.A.—Geo. Wendell Bush for a number of years manager of the Arden Dairy Farms at Harriman, N. Y., has left that position to take charge of the recently organized Farm Bureau of Oneida County. His headquarters will be at Utica.

'05, Sp.—F. H. Cardozo is located at the Agricultural and Mechanical College of Florida at Tallahassee. Mr. Cardozo has charge of Agriculture and Botany.

'06, W. D.—Earl W. Brown, formerly in charge of the bottling of the famous "Brookside Milk" at Newburgh has charge of the Bottling and Pasteurizing Departments of the Sheffield Farms, Slawson Decker Co., at New York City.

'07, Sp.—James H. Peterson gives his present address as Wakiawa, Oahn, Hawaii.

'07, Agr.—E. W. Thurston is instructor in Agriculture at the Lowville Academy.

'09, B.S.A.—M. A. Travis is at present doing bacteriological and chemical work in conjunction with milk and cream testing. He has

recently taken this position with the Detroit Chemical Co., Detroit, Mich.

'09, B.S.A.—R. L. Rossman is harvesting a big corn and oat crop on his ranch at Bancroft, Iowa.

'09, Sp.—Mr. Ernest Potts has recently purchased a fine fruit ranch at Modisto, California.

'10, B.S.A.—Dr. Harding of the Geneva Experiment Station has accepted a position as head of the Dairy Industry Department of the University of Illinois.

'10, B.S.A.—James Rutherford was in town over the 12-13th.

'10, B.S.A.—K. B. Lewis is in the Bureau of Pomology of the United States Department of Agriculture.

'10, B.S.A.—The wedding of Herbert L. Sanford and Miss Nellie Dougherty of Lansing, N. Y., took place on June 26. Mr. and Mrs. Sanford are now residing in Washington, D. C., Mr. Sanford being in the employ of the Bureau of Entomology.

'10, Sp.—G. U. Tiffany. Announcement has just been received of the marriage of Mr. Tiffany to Miss Ada Meyers of Lisbon, Iowa, on May 18, 1912. Mr. Tiffany is in charge of agricultural teaching in the Pine Island Public Schools, Pine Island, Minn.

'10, W. H.—Geo. H. Sprague, formerly with the Turner Hill Farm at Ipswich, Mass., has taken a position as instructor in Horticulture at Lyden Institute, Lyden Center, Vt.

W. P.—Gustave Walters is in charge of the Poultry department of the Johnston Stock and Farming Co., a land developing company situated at St. Paul, Minnesota.

'11, M.S.—Mr. E. L. Hsieh is now connected with the Department of Agriculture and Forestry of the Republic of China, with headquarters in Peking. He is particularly identified with the Bureau of Editing and Translation and has to do largely with the agricultural library. After leaving Cornell, Mr. Hsieh went to Germany, with the expectation of spending a year and a half or two years studying agricultural conditions, taking work in some of the universities, but at the

time of the revolution in his native land he was recalled.

'11, B.S.A.—Miss Grace Bennett is successfully conducting a Tea Room in Washington, D. C. Miss Bennett also has charge of the woman's page of the *Tribune Farmer*.

'11, B.S.A.—T. E. Elder was in town the week of Nov. 6th on his way to Virginia. Mr. Elder is in charge of the farm of the Mt. Hermon Seminary.

'11, B.S.A.—Miss Lydia Humphrey, has an excellent teaching position in Atlantic City, N. J.

'12, Ph.D.—G. R. Hill, who took his Doctor's degree in Plant Physiology this fall, has gone to the Shaw Botanical Garden at St. Louis, Missouri, where he will be associated with Dr. Duggar in botanical research.

'12, Ph.D.—R. J. Evans has been appointed to a position with the Utah Agricultural College.

'12, M.S.A.—Mr. Alfred Atkinson has resumed his duties at the head of the Agronomy Department of the Montana Agricultural College.

'12, M.S.A.—Mr. H. H. Vinall has returned to the Plant Breeding Department at Washington, D. C., where he will resume his duties as Assistant Agrostologist.

'12, B.S.—George Butler and A. H. White, last year's Business Manager and Editor of the *Countryman* respectively, and Stanley White were in Ithaca for the Dartmouth game.

'12, B.S.—Miss Mildred Dudley has succeeded Miss Humphrey in her former teaching position at Corinth, N. Y.

'12, B.S.A.—James Kraker is with the fertilizer plant of the American Agricultural Chemical Company at Wilmington, N. C.

'12, B.S.—Edwin P. Smith, alumni notes editor of the *COUNTRYMAN* last year, is very busy managing a farm at Oxford Depot, N. Y. Mr. Smith's work this fall has been largely along the lines of pomology, having set about 40 acres of fruit within the last few weeks.

'12, Sp.—Mr. W. A. Salisbury is in charge of a large Holstein herd on the Brotherton Farms at Waterville, N. Y.

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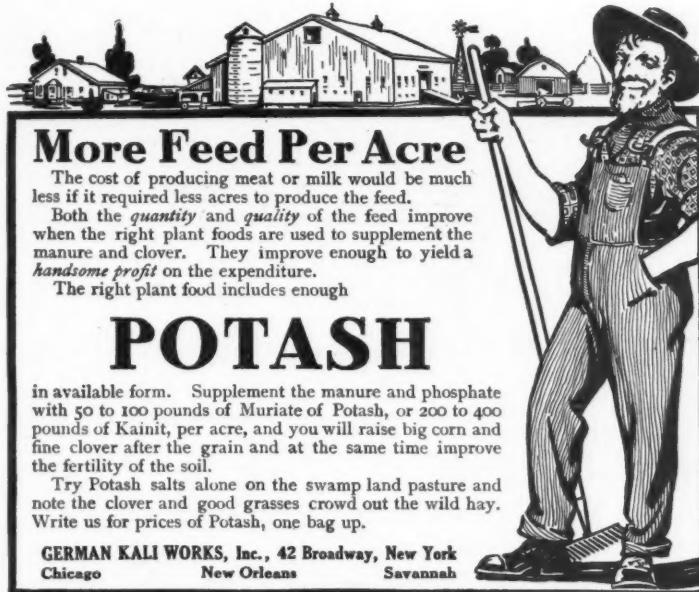
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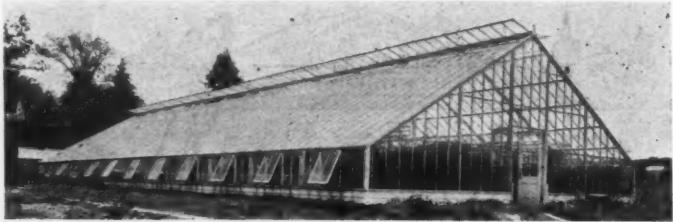
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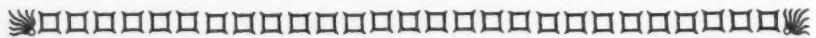
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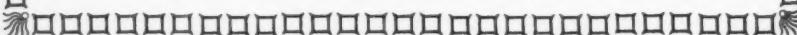


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